

Serial No. 10/731,021
Docket No.: EM002-US
TAK.046

REMARKS

Applicant concurrently files herewith a petition and fee for a two-month extension of time.

Claims 1, 5-7, 9-13, 17-19, and 21-26 are presently pending in this application.

Claims 1, 5-7, and 9-12 have been amended to more particularly define the invention. Claims 21-26 have been added to assure Applicant the degree of protection to which his invention entitles him. Claims 2-4, 8, 14-16, and 20 have been cancelled in the interest of expediting prosecution.

It is noted that the claim amendments are made only to assure grammatical and idiomatic English and improved form under United States practice, and are not made to distinguish the invention over the prior art or narrow the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 2-3, 5-15 and 17-20 were rejected under the judicially created doctrine of obviousness-type double patenting, as being unpatentable over claims 8-17 of U.S. Patent No. 6,801,103. However, claims 2-3, 8, 14, 15, and 20 have been canceled, and claims 5-7, 9-14, and 17-19 now depend directly or indirectly from claim 1, which was not rejected due to obviousness-type double patenting. Accordingly, this rejection should be withdrawn.

Claims 2-3, 8, 14, and 15 were rejected under 35 U.S.C. §102(b) as being anticipated by Huang, U.S. Patent No. 6,121,857, Hjelm, et al., U.S. Patent No. 5,036,292, or Kamoi, JP 08265085. The cancellation of these claims makes this rejection moot.

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Claims 9-10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Huang, Hjelm, et al., or Kamoi. Claims 11-12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Huang, Hjelm, et al., or Kamoi in view of Morrill, U.S. Patent No. 6,137,379. Claims 1, 4-7, 13 and 16-20 were rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over Huang, Hjelm, et al., or Kamoi. The cancellation of claims 4, 16, and 17 makes the rejection moot as to these claims. All the remaining rejections are respectfully traversed.

The claimed invention is directed to a noise filter which includes a ground line for discharging to ground a short-circuit current having an angular frequency of at least ωn radians per second and generated on an electronic apparatus having a capacitance to ground of C farads; an inductor having an inductance of L henrys, for suppressing a noise current, induced on the ground line, flowing from the ground line into the electronic apparatus; and a resistor having a resistance of R ohms and connected in parallel with the inductor. As set forth in independent claim 1, $\sqrt{L/C} < R < 2 \omega n^2 L$, and $C > 1/(4 \omega n^4 L)$.

Even assuming *arguendo* that each of Huang, Hjelm, and Kamoi discloses a noise filter which includes a ground line for discharging to ground a short-circuit current having an angular frequency of at least ωn radians per second and generated on an electronic apparatus having a capacitance to ground of C farads; an inductor having an inductance of L henrys, for suppressing a noise current, induced on the ground line, flowing from the ground line into the electronic apparatus; and a resistor having a resistance of R ohms and connected in parallel with the inductor, still, there is no showing or suggestion in any of Huang, Hjelm, or Kamoi of a noise filter in which $\sqrt{L/C} < R < 2 \omega n^2 L$, and $C > 1/(4 \omega n^4 L)$.

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In the Office Action, the examiner contends that “(t)he limitation, ‘assuming a lower limit angular frequency of the noise current...a relationship of $\sqrt{L/C} < R < 2 \omega n^2 L$ (provided $C > 1/(4 \omega n^4 L)$) is established,’ as recited in claims 1 and 4, and the subject matter of claims 5-7 are inherent from the device of Huang, Hjelm et al. and Kamoi since the structure of the noise filter and the function of the resistor and the Inductor are the same as the applicant’s claimed invention especially considering each limitation uses a phrase, ‘assuming’.” This contention is traversed.

By the above amendments, the term “assuming” has been removed from the claims, thereby eliminating any possible uncertainty as to the frequency or the elements of the claimed device.

Even assuming *arguendo* that the devices of Huang, Hjelm et al. and Kamoi have a ground line, an inductor, and a resistor, as does claim 1, and that the devices of Huang, Helm et al. and Kamoi may filter noise, these alleged similarities with the claimed invention do not mean that in the devices of Huang, Helm et al. and Kamoi, $\sqrt{L/C} < R < 2 \omega n^2 L$, and $C > 1/(4 \omega n^4 L)$.

In authorizing rejections based on inherency, MPEP §2112 states: “Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection.” This same principle applies to an apparatus claim, such as claim 1 and its dependent claims.

Claim 1 does not claim the noise filter in terms of a function, property or

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characteristic. Claim 1 claims the noise filter in terms of structure. Specifically, claim 1 claims a noise filter having a particular inductor and capacitor with a particular size relationship at the noise frequency.

MPEP §2112 also states that the Examiner must provide a rationale or evidence tending to show inherence. The Examiner has not done this.

The Office Action continues by contending “it would have been obvious to one of ordinary skill in the art to design the noise filter to meet the limitations recited in claims 1 and 4-7 since Huang (col. 5, lines 19-27), Hjelm et al. (col. 3, lines 9-18 and 53-55) and Kamoi (paragraph [0010]) teach the resistor has a greater value than the impedance of the inductor and the capacitor (earth capacitance).” This contention is traversed.

At a frequency ωn , the impedance of the inductor is ωnL , and the impedance of the capacitor is $1/\omega nC$. The impedance of the serial combination of the inductor and the capacitor is then $\omega nL + 1/\omega nC$.

Claim 1 states that $\sqrt{L/C} < R < 2 \omega n^2 L$, and $C > 1/(4 \omega n^4 L)$. There is nothing here that says that the resistor has a greater value than the impedance of the inductor and the capacitor. If anything, in claim 1 the resistor has a smaller value than the impedance of the inductor and the capacitor. Thus, Huang, Hjelm et al., and Kamoi teach away from the claimed invention.

It is accordingly submitted that Huang, Hjelm et al. and Kamoi do not provide a proper basis for rejection of independent claim 1, its dependent claims 5-7, 9-13, 17-19, and 21-25, or independent claim 26.

In view of the foregoing, Applicant submits that claims 1, 5-7, 9-13, 17-19, and 21-26,

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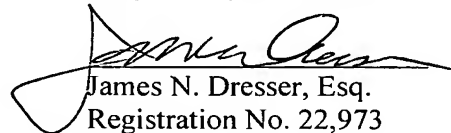
all the claims presently pending in the application, are patentably distinct over the prior art of record and are allowable, and that the application is in condition for allowance. Such action would be appreciated.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned attorney at the local telephone number listed below to discuss any other changes deemed necessary for allowance in a telephonic or personal interview.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR §1.136. The Commissioner is authorized to charge any deficiency in fees, including extension of time fees, or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

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Respectfully Submitted,


James N. Dresser, Esq.
Registration No. 22,973

McGinn & Gibb, PLLC
8321 Old Courthouse Road, Suite 200
Vienna, VA 22182-3817
(703) 761-4100
Customer No. 21254